

Why Big Tech now dances to the EU's tune

The US is following the lead of regulatory laws from Europe, report *Laurence Dodds* and *Olivia Rudgard* in San Francisco

It was not a statement one would expect to hear from the head of a huge Silicon Valley company. US technology firms have traditionally opposed regulation, and scorned the efforts of European countries to bring them to heel. Yet here was Tim Cook, chief executive of Apple, telling a data protection conference in Brussels last year: "It is time for the rest of the world, including my home country, to follow your lead."

Granted, Apple is famously pro-privacy, at least outside China (where it follows local laws mandating government access to user data). Yet Cook is not alone in singing the praises of the European Union. Brad Smith of Microsoft, Marc Benioff of Salesforce and Aaron Levie of the cloud storage firm Box are all on record stating the US should follow in the EU's footsteps.

Even Mark Zuckerberg, who had said last year that he was not sure whether Facebook should be regulated, has very publicly changed his tune, writing, in an op-ed in *The Washington Post*: "People around the world have called for comprehensive privacy regulation in line with the EU's ... and I agree."

Why are tech companies suddenly so keen to be told what to do? And why are they looking to Europe specifically? The answer, in part, lies in the influence that European efforts are having on the rest of the world – particularly in the US, which has the power to shape internet usage around the world because so many tech firms are headquartered there.

"[The EU] won in the market of ideas," says Prof Paul Schwartz, director of the Berkeley Centre for Law and Technology in California. "Brad Smith [of Microsoft] and Tim Cook, they're speaking the language of data protection law. What they're saying is – it's a human right. It's really quite noticeable ... think about French ideas of liberty and freedom jumping over the Atlantic and influencing the American Revolution."

The EU's most influential move has been the General Data Protection Regulation (GDPR), a wide-reaching privacy law that finally came into effect last year after almost a decade of methodical work by Martin Selmayr, the head of the EU's civil service.

But tech giants have also faced action from Margrethe Vestager, the EU's competition commissioner, who has earned the wrath of Donald Trump by levying \$9.4bn (£7.5bn) in fines against Google alone. Other commissioners have corralled Facebook, YouTube and Twitter into voluntary codes of conduct on fake news, political advertising and hate speech, increasing the share of illegal content deleted within 24 hours from 28pc in 2016 to 72pc this February.

In Germany, Angela Merkel's government passed a "Network Enforcement Act", popularly called the NetzDG, setting deadlines for the deletion of illegal content. In France, Emmanuel Macron and his new digital minister Cédric O have convinced Facebook to agree to an audit of its

algorithms and to give French courts information about hate speech suspects. In Britain, after a campaign by *The Daily Telegraph*, the Government has announced plans to give tech firms a duty of care towards under-18s, possibly to be enforced by a regulator.

"The EU has certainly led the way in developing a strong, comprehensive approach to privacy protection," says Eleni Kyriakides, international counsel for the Washington DC-based Electronic Privacy Information Centre. "The US is one of the few advanced democracies without comprehensive privacy legislation. GDPR-style legislation is, simply put, long overdue." James P Steyer, founder of the US lobby group Common Sense, likewise says that "momentum" is now on the side of "citizens who are calling for privacy protections and digital well-being as an industry standard."

American politicians have taken notice. In a series of US senate hearings on how to regulate Big Tech, GDPR has been a constant touchstone for senators' interrogation of executives. The state of California has passed its own privacy bill, the California Consumer Privacy Act (CCPA), explicitly inspired by GDPR. Beyond North America, Brazil, Thailand and Japan have also passed

\$9.4bn

The amount levied in fines against Google alone by Margrethe Vestager, the EU's competition commissioner

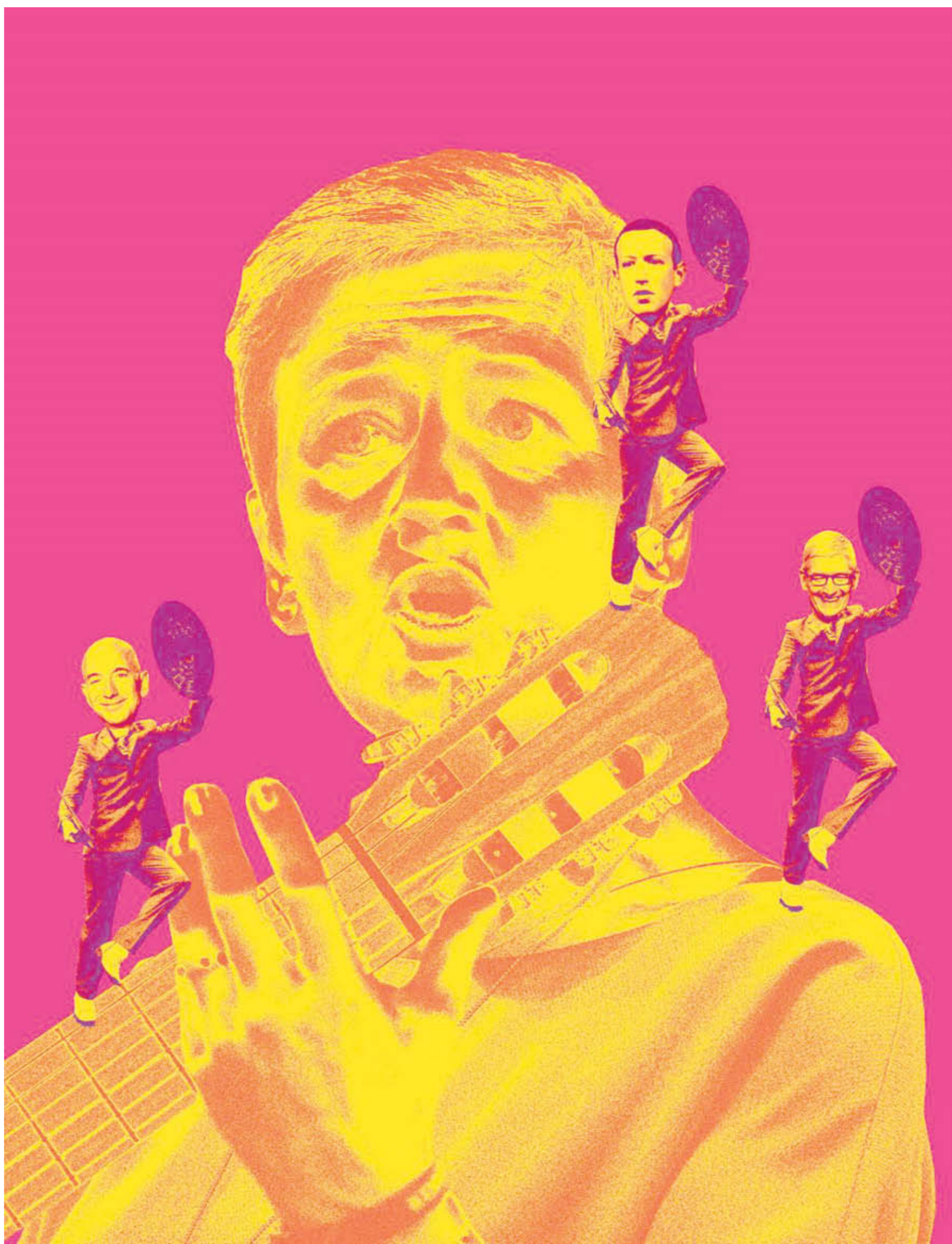
data privacy laws closely modelled on GDPR, while France, Australia and New Zealand are following similar paths on hate speech and terrorism.

According to Steve Weber, a professor at the Berkeley School of Information, GDPR has served "as a big signal that governments can do this, and as a lodestar" for how it can be done. He says the CCPA was "clearly inspired" by European laws. Schwartz adds that the EU has benefited from being "flexible", allowing different countries to implement its ideas in their own way and extending its reach via negotiation and influence rather than by the sheer force of its market power.

Meanwhile, the US Federal Trade Commission is reportedly mulling a fine against Facebook that would be bigger than any it has ever levied – but comparable to those already levied by the EU. American politicians are talking more openly than ever before about breaking up tech giants, or at least restraining their market power.

Elements of the NetzDG have also become visible in global discussions about online hate speech. Both Facebook and YouTube now publish regular statistics on how much content they have taken down.

Zuckerberg has said that other companies should follow suit, and that nation states should "set baselines" for content moderation. This global wave



It's really quite noticeable. Think about French ideas of liberty and freedom jumping over the Atlantic and influencing the American Revolution'

is ultimately why tech giants have changed their tune. "These folks are past the point of believing they can continue to exist in this splendid, "Maybe two years ago people would say: 'Look, we're in a short-term storm and if we can just ride that out, we can do whatever we want to do.' That train has left the station, and now the sense is that if there's going to be meaningful regulation then let's shape that regulation in a way that helps us."

But Europe's battle is not finished yet. To start with, GDPR itself has not yet led to that much change, with many companies simply adding more permission checklists to their services.

Whether anyone is even behaving differently is still an open question, says Schwartz. Indeed, most observers of Capitol Hill now believe that attempts to create such a law have stalled, with no legislation expected until after 2020. Some experts have argued before Congress that GDPR would be the wrong model because users are not capable of meaningfully consenting to the dizzying array of data collection practices that tech companies employ. Meanwhile, the

CCPA has become bogged down in a sludge of amendments, backed by tech industry lobbyists. There are other reasons to doubt Silicon Valley's embrace of regulation. In Germany, Facebook has been fined €2m (£1.8m) for not making its transparency report transparent enough.

Zuckerberg's op-ed also avoided mention of any deadlines for taking down content – arguably the NetzDG's most important component, but one that Facebook has persistently lobbied against. Similarly, on GDPR, tech companies have been supportive of watered-down versions, laws which look a lot like the EU's but which are missing fundamental clauses, like the need for a lawful basis for processing someone's information.

One such bill failed to pass in Washington state earlier this year. Ultimately, Weber believes European tech laws will continue to influence American politics – but not necessarily in the way Martin Selmayr might hope. "Europe plays this weird shadow reality role in American thinking," he says. "Two years ago we were saying that the Europeans were going to hamstring themselves with GDPR,

'Two years ago we were saying the Europeans were going to hamstring themselves with GDPR ... now we realise we should do something, we idealise them'

they're going to set back development of AI by years; they don't understand the digital economy. Now that we have come around to the idea that we should do something, we idealise the Europeans: 'Wow, they've figured it out!' In his view, the US has arrived at this regulatory moment for its own reasons (such as liberal backlash against the role of Facebook in the election of Trump), and the European example is an easily available crutch. In fact, Weber argues that even though US politicians have more power to regulate tech giants than the EU, they might be less willing to do so because they depend on Silicon Valley – for job creation, economic growth, a buoyant stock market and, naturally, campaign contributions.

The EU, however, seems happy to press forward alone. Its member states have just nominated Ursula von der Leyen, a German defence minister, as the new head of the European Commission. She has long called for greater regulation of Big Tech, and is expected to keep Vestager in her post. If that happens, it probably won't matter whether Silicon Valley's smiles are sincere.

Musk has high ambitions for low-orbit internet satellites

The SpaceX entrepreneur believes he can succeed where many have failed, but *Lewis Page* has doubts

No one has ever succeeded in low-orbit internet satellites, admitted Elon Musk last month – as his first low-orbit internet satellites were launched.

He was right, and not because others haven't tried hard enough. Low orbit has long been a graveyard of tech dreams. Iridium, Globalstar and Orbcomm remain operational following bankruptcy. Teledesic, Skybridge, Celestri and Astrolink are gone.

It's a discouraging obituary list, and there's cold comfort for his investors in Musk's known philosophy. "If something's important enough, you should try," he recently told an interviewer, "even if the probable outcome is failure".

Satellite broadband can be had but not from low orbit. Normally, it comes from a spacecraft much higher up, in a 24-hour orbit above the Equator. From the ground, such a satellite sits

stationary in the sky. It's easy to point a dish at it for a high-bandwidth connection. But because the satellites are so high, geostationary broadband is subject to irritating signal delays, known as latency, bad enough to prevent online gaming. It's also too expensive for streaming high-definition video, and there are hard limits on user numbers.

That's why almost everyone connects to the internet via terrestrial means, and almost all backbone data moves via terrestrial fibres, often undersea. Billions of people who are poorly served by the fibre backbone remain offline.

Recently, however, there's been a stampede towards low orbit. It's not just Musk: satcomms veteran Greg Wyler, backed by Sir Richard Branson among others, has six new OneWeb spacecraft in orbit and plans more. Amazon's Project Kuiper expects to put up more than 3,000. The Leosat and

Elon Musk thinks his Starlink boxes could cost as little as \$150



Telesat schemes also lead the pack, and dozens more are close behind.

Musk's Starlink system aims for almost 12,000 satellites. His company, SpaceX, has the unique advantage that it provides the cheapest launch rockets in the world because they are used more than once. But low-flying satellites zoom across the sky, so it's no good trying to point dishes at them. And satellites in such numbers must be very affordable.

The affordable part may be happening. Musk's low-orbit rival, Wyler of OneWeb, recently said: "Whether our satellites are \$500,000 [£397,000] or \$1m is irrelevant, because they are not \$50m, that's where it started."

The problem of fast-moving satellites is also in hand. Flat phased-array antennae, like those in advanced military radars, can form directional beams and aim them to track a target without

moving. Musk says that a "pizza box" sized antenna with a view of the sky will be all that's needed to use Starlink.

The big story, however, is the connection from the satellite to the wider internet. Starlink and its rivals plan to pass data around the world from satellite to satellite using optical lasers, which will have similar capacity to Earth-based fibres – basically the same equipment, without the fibre.

This could mean satellites replacing the global fibre backbone. Musk has said: "The goal will be to have the majority of long-distance traffic go over this network."

Bill Ray, senior analyst at Gartner, points out that space-to-space lasers are largely unproven and that backbone-capacity links would be needed to connect the satellites to the fibre backbone to begin with, or in the satellite-backbone future, for such purposes as major data centres.

"Using visible light for satellite-to-Earth is challenging," says Ray.

"You could do this with radio instead, but it would be complicated. Different nations and regions have different rules on spectrum, and lower-flying satellites need to work

with them all."

Musk claimed that Starlink might quickly begin to generate revenues of \$30bn for SpaceX. Ray is sceptical. "None of the satellite schemes is going to make much money unless they can compete for customers who already have a connection," he says. "For starters, the expense of the 'pizza box' will be a problem."

Musk has told potential investors that he believes Starlink pizza boxes will cost \$500 at first, dropping to \$150 over time. But the main reason to be sceptical of the \$30bn figure is that it seems to be more Musk's estimate of what SpaceX needs to build his Mars ships than a realistic attempt at projecting satellite broadband revenue. Musk has stated not only his intention to fly hundreds of people to Mars, and in some cases back again, but that he intends to be among them. He has just turned 48, so he needs to rapidly accelerate progress toward the red planet to even have a chance.

An attempt to use Starlink as a springboard to Mars may just be one of those probable failures that, for Musk, are so important that they have to be tried anyway.